

SC/wy 010919US
August 29, 2001

A b s t r a c t

The invention relates to an approximation of a DCT and a quantization which are to be applied subsequently to digital data for compression of this digital data. In order to improve the transform, it is proposed to simplify a predetermined transform matrix to require less operations when applied to digital data. In addition, elements of the simplified transform matrix constituting irrational numbers are approximated by rational numbers. These measures are compensated by extending a predetermined quantization to include the operations which were removed in the simplification of the predetermined transform matrix. The included operations are further adjusted to compensate for the approximation of elements of the simplified transform matrix by rational numbers. If the simplified transform matrix and the extended quantization are used as basis for implementation, a fast transform with a good resulting quality can be achieved. An approximation of an IDCT employed in decompression of compressed digital data can be simplified correspondingly.

For publication: Figure 2

05943241-000001